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EXTERNAL ENVIRONMENTAL AUDIT - THEMBALETHU PUMP STATION NO. 06 AND NEW RISING MAIN

PREPARED FOR:
SES Environmental Services



Date: December 2025

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Executive Summary

Sharples Environmental Services cc (SES) has been appointed by the George Municipality: Water & Sanitation: Civil Engineering Services, (client), as the Environmental Control Officer (ECO) to monitor the construction activities on site for the duration of the Rising Main and the Thembelethu Pump Station 6 in George, against the Construction Phase Environmental Management Plan dated October 2021) and Environmental Authorisation issued on March 2014 and the associated exemption granted by DEA&DP (Ref: 16/3/1/14/D2/50 /0060/12 and 16/3/1/4/D2/50/0029/13).

Ecosense cc. was appointed by Sharples Environmental Services cc (SES) to conduct the six-month post commencement external compliance audit. This audit is conducted in terms of Regulation 34 of the Environmental Impact Assessment (EIA) Regulations of 2014 (amended in 2017). The audit was carried out in November and December 2025 by Erik Botha with a site inspection in the company of Mr. Christiaan Smit of Sharples Environmental Services cc. (SES) on the 18th of November 2025.

The Auditor found that the extent of the Applicant's compliance with the 29 Conditions and Sub-conditions imposed by the Environmental Authorisation to be as follows:

- Conditions 1-4 deal with notification of appeals process which have been exempted and Items 5-6 deal with the location of the activities and are not applicable to the scope of this audit;
- Two non-compliances were found. These relate to Notice of Commencement to be submitted to the Competent Authority (Condition 4) and the deadline for the appointment of the External Auditor (Condition 10). The Auditor does not regard either of these non-compliances to be significant;
- Fifteen instances of Compliance were found, and;
- Compliance with Conditions 9.2 and 17 could not be ascertained due to the lack of evidence and information regarding timelines to support a finding either way.

The Auditor found that the extent of the Applicant's compliance with the 139 Conditions and Sub-conditions imposed by the Updated Operational Phase Environmental Management Plan (OEMP) to be as follows:

- One Hundred and Twelve instances of Compliance were found;
- Fifteen Conditions are not applicable to the current project phase, and;
- Twelve instances on Non-compliance were found. Of these, four related to alien vegetation clearing, three related to outstanding method statements and 5 related to insufficient erosion control, slope stabilisation and surface water management along the pipeline route.

The findings relating to alien vegetation clearing, erosion control and slope stabilisation are highly significant from an environmental perspective and the resultant risks posed to both the local residents and the receiving environment require urgent attention. The cut slopes very steep in places and that the exposed material had not been stabilised at the time of the audit. This poses a risk of slopes collapsing, landslides and damage to adjacent structures and dwellings. The auditor strongly recommends that the Engineer be requested to provide an opinion on the stability and inherent safety of these slopes. Where necessary, corrective measures must be implemented as a matter of urgency.

Cut vegetation management is another source of concern. Various instances were noted where cut vegetation had simply been stacked or stockpiled and not been removed from site. This increases the fire load in the area significantly. These stockpiles must be removed to a composting facility.

1 Introduction

This document presents the findings of an external compliance audit of the Rising Main and the Thembelethu Pump Station 6 in George, against the Construction Phase Environmental Management Plan dated October 2021) and Environmental Authorisation issued on March 2014 and the associated exemption DEA&DP Refs: 16/3/1/14/D2/50 /0060/12 and 16/3/1/4/D2/50/0029/13.

Condition 10 of the EA stipulates that: *“The applicant must compile and submit an Environmental Audit Report six months after commencement of construction and thereafter annually with the last report within 12 months after completion of construction activities. Such audit report must indicate the date on which construction activities were commenced with and when it was completed and detail compliance with the mitigation/rehabilitation measures and recommendations referred to in the EMP and conditions of this Environmental Authorisation.”*

Ecosense CC was appointed to conduct an External Environmental Compliance Audit, as contemplated in this Condition, on the 17th of October 2025.

This audit is also conducted in terms of Regulation 34 of the Environmental Impact Assessment (EIA) Regulations of 2014 (amended in 2017). The report details:

- the qualification of the lead auditor;
- the approach used to conduct the audit; and,
- the audit findings and recommendations.

2 Project team

2.1 Ecosense CC

Ecosense is an environmental consultancy with 40 years of experience in environmental management in all its guises, primarily, (although not exclusively), in the Western Cape.

Ecosense’s head office is in Cape Town but has a satellite office in Mossel Bay staffed by two associates: Errol Cerff and Wynand (Erik) Botha. The business model currently utilised by Ecosense is to have a small number of permanent employees but a wide range of associates from various disciplines. This gives Ecosense the flexibility to assemble teams most appropriate to the contract at hand utilising locally based associates.

Vincent Masefield and Errol Cerff are both registered as Professional Natural Scientists with South African Council for Natural Scientists (SACNASP). Wynand (Erik) Botha is registered as a member of the Institute of Waste Management of South Africa, and the Institute of Risk Management of South Africa. All three are members of the International Association of Impact Assessment (South Africa). The tertiary qualifications of the Lead Auditor can be found in his CV in Appendix 2.

Vincent Masefield, as CEO, is the primary client contact and project manager, while Erik Botha was responsible for the audit completion.

Details of the Lead Environmental Auditor

Name of the auditor:	Erik Botha
Person who compiled this Report:	Erik Botha
Contact Person (if not author):	Vincent Masefield
Postal address:	Head Office: 2 Hartwood Avenue Sunningdale Cape Town, 7441

	South Africa
Cellular:	+27 82 966 6381
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Auditor Qualifications:	BSc

Box 1: Erik Botha Expertise

Wynand Frederik (Erik) Botha has been involved in environmental consulting for almost 30 years, specialising in environmental auditing. He has undergone extensive training in this field, both locally and internationally. His experience base covers a wide spectrum of private and public sector clients and ranges from internal baseline audits, initial reviews, pre-acquisition audits, due diligence investigations, regulatory audits and compliance audits. He also has extensive experience as an ECO, EO and ESM on a variety of sectors.

He has also been involved in and managed a wide range of projects ranging from basic assessments, impact assessments, environmental risk assessments, management systems design and implementation, due diligence investigations, management plans, waste management plans and enterprise wide risk assessments. These projects covered a wide range of public and private sector activities and included a variety of industries.

The bulk of his project experience has been in the coastal region of the Western Cape and he is very familiar with the salient issues and drivers associated with the coastal environment.

Erik is a member of the Institute of Risk Management of South Africa, the Institute of Waste Management of South Africa and the International Association for Impact Assessment South Africa.

Box 2: Declaration of Independence of Auditor

Declaration of Independence

(in terms of Chapter 5 of the National Environmental Management Act of 1998).

I, Wynand Frederik Botha hereby declare that I have no conflicts of interest related to the work of this report.

Specifically, I declare that I have no personal financial interests in the property and/or development being assessed (audited) in this report, and that I have no personal or financial connections to the relevant property owners, developers, planners, financiers or consultants of the development.



30th March 2026

3 Scope of Work

The terms of reference for this audit are contained in the OEMP and were provided to the auditors by SES Environmental Services. Section 4.1, point 11 requires the: “*Compilation of the Environmental Audit Report or Environmental Completion Statement, within six (6) months of completion of construction (or as otherwise defined in the Environmental Authorisation), inclusive of all post-construction rehabilitation and monitoring measures and submission of such report to the Competent Authority*”

The bulk sewerage pipelines and associated infrastructure are to be aligned predominantly along the edge of the Thembaletu settlement, along the edge and within the Schaapkop River valley to the south, separating Thembaletu from Pacaltsdorp.

The bulk sewer infrastructure involves approximately 12km of sewer pipeline, the upgrade and decommissioning of sewer pumpstations, five (5) river crossings and several stream / tributary crossings, within the Schaapkop River Valley.

The audit assessed compliance with the Environmental Authorisation and the Environmental Management Programme provided for the Upgrading of Thembaletu Sewage Pumpstation No. 06 and Construction of New Rising Main in Thembaletu, George (specifically and not the whole project).

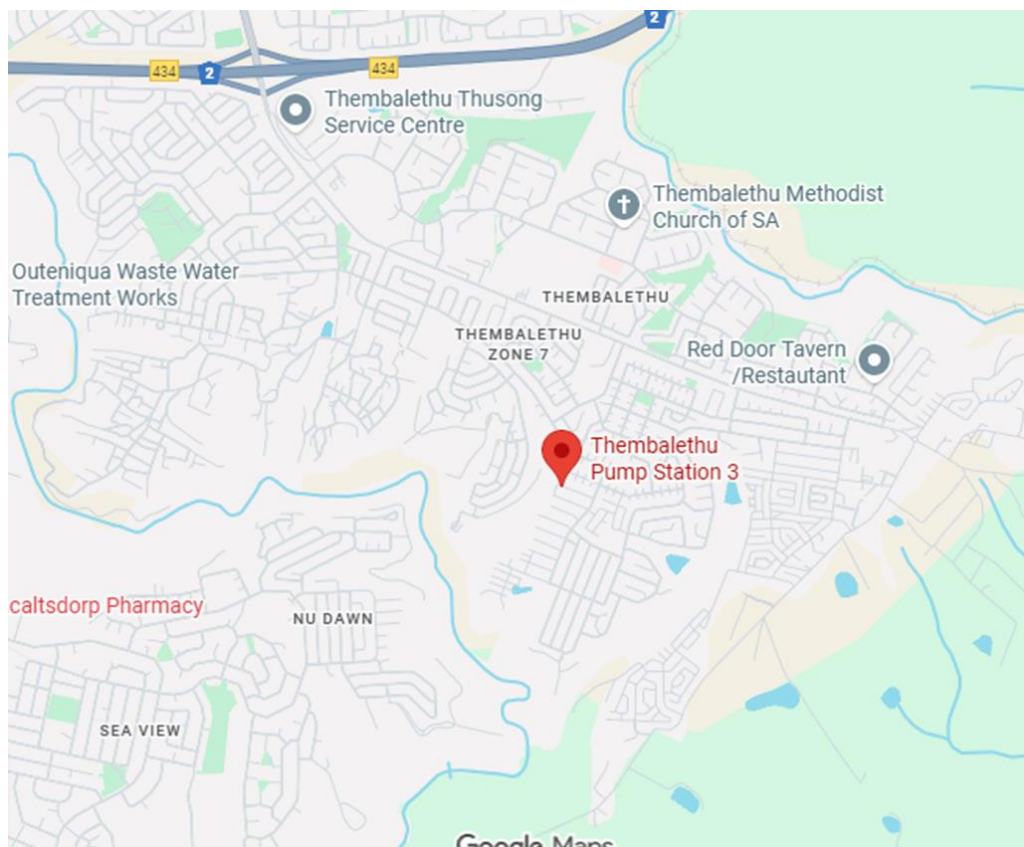


Figure 1: Site Location

The audit included the following tasks:

- Undertake a review of documentation provided by the client;
- Conduct a guided site visit / inspection, and;
- Prepare the compliance audit report for submission by the ECO.

Table 1: Categories of compliance used in this audit

Abbreviation	Compliance Rating	Definition
C	Full Compliance	The Condition has been complied with in full and evidence to this was presented to the auditor.
NC	Non-Compliance	The Condition has not been fully complied with. This includes instances where insufficient evidence is available to corroborate claims of full compliance.
NA	Not Applicable	The Condition is not applicable as a consequence of either the condition applying to a different phase of operation which has not yet commenced, or compliance is in the hands of another agency, or the condition is merely a note for information purposes only.

Guidance on the applicability of Regulation 34 can be found in Chapter 8, Regulations 50 (1) and (2) as well as Regulation 54 (3) of the Environmental Impact Assessment (EIA) Regulations of 2014 (amended in 2017). These Regulations read as follows:

Box 3: Transitional Arrangements and Commencement

CHAPTER 8

Continuation of actions undertaken and authorisations issued under previous ECA regulations

50. (1) Any actions undertaken in terms of the ECA regulations and which can be undertaken in terms of a provision of these Regulations must be regarded as having been undertaken in terms of the provision of these Regulations.

(2) Any authorisation issued or exemption from obtaining an environmental authorisation granted in terms of the ECA regulations, must be regarded to be an environmental authorisation issued in terms of these Regulations.

54. A. Transitional provisions

(3) Where an environmental authorisation issued in terms of the ECA regulations or the previous NEMA regulations is still in effect by 8 December 2014, the EMPr associated with such environmental authorisation is subject to the requirements contained in Part 3 of Chapter 5 of these Regulations and the first environmental audit report must be submitted to the competent authority no later than 7 December 2019 and at least every 5 years thereafter for the period during which such environmental authorisation is still in effect.

The requirements of an external compliance audit specified in Regulation 34 of Part 3 referred to above are presented in the boxes overleaf.

Box 4: Environmental Impact Assessment Regulations, Government Notice: GN R982 in GG 38282 of 4 December 2014 as amended

Part 3: Auditing and amendment of environmental authorisation, environmental management programme and closure plan

Auditing of compliance with environmental authorisation, environmental management programme and closure plan

- 34.
- (1) The holder of an environmental authorisation must, for the period during which the environmental authorisation and EMPr, and where applicable the closure plan, remain valid-
 - (a) ensure that the compliance with the conditions of the environmental authorisation and the EMPr, and where applicable the closure plan, is audited; and
 - (b) submit an environmental audit report to the relevant competent authority.
 - (2) The environmental audit report contemplated in subregulation (1) must-
 - (a) be prepared by an independent person with the relevant environmental auditing expertise;
 - (b) provide verifiable findings, in a structured and systematic manner, on-
 - (i) the level of performance against and compliance of an organization or project with the provisions of the requisite environmental authorisation or EMPr and, where applicable, the closure plan; and
 - (ii) the ability of the measures contained in the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity;
 - (c) contain the information set out in Appendix 7; and
 - (d) be conducted and submitted to the competent authority at intervals as indicated in the environmental authorisation.
 - (3) The environmental audit report contemplated in subregulation (1) must determine-
 - (a) the ability of the EMPr, and where applicable the closure plan, to sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an ongoing basis and to sufficiently provide for the, avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
 - (b) the level of compliance with the provisions of environmental authorisation, EMPr and where applicable the closure plan.
 - (4) Where the findings of the environmental audit report contemplated in subregulation (1) indicate-
 - (a) insufficient mitigation of environmental impacts associated with the undertaking of the activity; or
 - (b) insufficient levels of compliance with the environmental authorisation or EMPr and, where applicable the closure plan;the holder must, when submitting the environmental audit report to the competent authority in terms of subregulation (1), submit recommendations to amend the EMPr or closure plan in order to rectify the shortcomings identified in the environmental audit report.
 - (5) When submitting recommendation in terms of subregulation (4), such recommendations must have been subjected to a public participation process, which process has been agreed to by the competent authority and was appropriate to bring the proposed amendment of the EMPr and, where applicable the closure plan, to the attention of potential and registered interested and affected parties, including organs of state which have jurisdiction in respect of any aspect of the relevant activity and the competent authority, for approval by the competent authority.
 - (6) Within 7 days of the date of submission of an environmental audit report to the competent authority, the holder of an environmental authorisation must notify all potential and registered interested and affected parties of the submission of that report, and make such report immediately available-
 - (a) to anyone on request; and
 - (b) on a publicly accessible website, where the holder has such a website.
 - (7) An environmental audit report must contain all information set out in Appendix 7 to these Regulations.

Box 5: Environmental Impact Assessment Regulations, 2014 (GN 982) as amended by GN 326 of 2017 – Appendix 7

Environmental Audit Report

1. The environmental audit report must provide for recommendations regarding the need to amend the EMPr, and where applicable, the closure plan.

Objective of the environmental audit report

2. The objective of the environmental audit report is to –
 - (a) report on—
 - (i) the level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan; and
 - (ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieve the objectives and outcomes of the EMPr, and closure plan;
 - (b) identify and assess any new impacts and risks as a result of undertaking the activity;
 - (c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;
 - (d) identify shortcomings in the EMPr, and where applicable, the closure plan; and
 - (e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.

Content of environmental audit reports

3. Content of environmental audit reports
 - (1) An environmental audit report prepared in terms of these Regulations must contain—
 - (a) details of the—
 - (i) independent person who prepared the environmental audit report; and
 - (ii) expertise of the independent person that compiled the environmental audit report;
 - (b) a declaration that the independent auditor is independent in a form as may be specified by the competent authority;
 - (c) an indication of the scope of, and the purpose for which, the environmental audit report was prepared;
 - (d) a description of the methodology adopted in preparing the environmental audit report;
 - (e) an indication of the ability of the EMPr, and where applicable, the closure plan to—
 - (i) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the undertaking of the activity on an on going basis;
 - (ii) sufficiently provide for the avoidance, management and mitigation of environmental impacts associated with the closure of the facility; and
 - (iii) ensure compliance with the provisions of environmental authorisation, EMPr, and where applicable, the closure plan;
 - (f) a description of any assumptions made, and any uncertainties or gaps in knowledge;
 - (g) a description of any consultation process that was undertaken during the course of carrying out the environmental audit report;
 - (h) a summary and copies of any comments that were received during any consultation process; and
 - (i) any other information requested by the competent authority.

4 Approach/ Methodology

The audit was carried out in November and December 2025 by Erik Botha with a site inspection in the company of Mr. Christiaan Smit of Sharples Environmental Services cc. (SES), on the 18th of November 2025. The audit also comprised a review of documentation provided to the audit team (see Appendix 1). The findings of this inspection and document review are detailed in Section **Error! Reference source not found.** below.

A draft report was produced and submitted to Sharples Environmental Services cc. to check for factual accuracy prior to finalisation.

5 Assumptions and uncertainties

This report is issued subject to the following assumptions and uncertainties.

1. The audit inspection looks at "a snapshot in time" on site and not all the management requirements might be possible to audit by observation. Interviews with management staff or review of records will serve to establish compliance in these cases wherever possible.
2. This is not a full legal due diligence compliance audit.
3. All evidence of compliance to be provided to the Auditor. If the information is not available/evidence not provided, no conclusions about compliance will be made.
4. We assume that all planning and environmental legal requirements are finalized and in place for the development at time of commencement of our appointment.
5. This appointment does not include the monitoring and reporting on any permits/licenses such as WUL's, Heritage, AEL's, etc.

6 Findings

The findings of this audit are detailed below.

6.1 Compliance with EA

The Corrected Environmental Authorisation was issued on the 14th of March 2014, DEA7DP reference: 16/3/1/14/D2/50 /0060/12 and 16/3/1/4/D2/50/0029/13.

The findings of this inspection and document review are detailed in Table 2 below. Please refer to Section 1.3 of this report for more information on the approach and methodology followed, as well as the scoring system implemented during the audit.

6.2 Compliance with OEMP

The Updated Operational Phase Environmental Management Plan (OEMP) was prepared by Cape Environmental Assessment Practitioners (Pty) Ltd. - Cape EAPrac. and finalised in March 2014

The OEMP was developed to meet the conditions of approval of the Environmental Authorisation issued on March 2014 and the associated exemption DEA&DP: 16/3/1/14/D2/50 /0060/12 and 16/3/1/4/D2/50/0029/13.

The findings of this inspection and document review are detailed in Table 3 below. Please refer to Section 1.3 of this report for more information on the approach and methodology followed, as well as the scoring system implemented during the audit.

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Table 2: Compliance with the EA Requirements

Compliance Item	Finding	Compliance Rating	Recommendation
<p>Conditions 1-4 deal with notification of appeals process which have been exempted: The applicant is herewith exempted from the following provisions of the NEMA EIA Regulations: Regulation 10(2) (d) of Government Notice No. R.543, which reads as follows: 10(2) The applicant must, in writing, within 12 days of the date of the decision of the application publish a notice - I. informing interested and affected parties of the decision; II. informing interested and affected parties where the decision can be accessed; and III. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of these Regulations, if such appeal is available under the circumstances of the decision, in the newspapers contemplated in regulation 54(2) (c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.</p>			
<p>4. Seven calendar days notice, in writing, must be given to the competent authority before commencement of construction activities.</p>	<p>The Notice of Commencement is dated 16 of March 2022. The Notice states that that construction commenced on the 14th of March 2022, two days prior to the Notice being issued. The same notice mentions that construction of “A portion of the bulk sewer pipeline and associated infrastructure installation commenced in 2015 (bulk sewer pipeline below Areas 5 & 6A & River Crossing No.6 to the Pacaltsdorp Pumpstation 1), while the formalization of Area 8 A, B & C settlements commenced in March 2017 (under updated EMPr specific to these residential areas, Ref: GEO379/01).”</p>	<p>Non-compliant</p>	<p>If evidence to the contrary exists, it must be submitted to the competent authority to be read in conjunction with this finding.</p>
<p>4.1. The notice must make dear reference to the site details and EIA Reference number given above.</p>	<p>Evidence of compliance provided by SES.</p>	<p>Compliant</p>	<p>Nil</p>
<p>4.2. The notice must also include proof of compliance with the following conditions described herein: Conditions: 2, 3, 9, 12 and 18</p>	<p>Evidence of compliance provided by SES.</p>	<p>Compliant</p>	<p>Nil</p>
<p>.....Items 5-6 deal with the location of the activities.</p>			
<p>7. Any changes to, or deviations from the scope of the description set out in section B above must be accepted or approved, in writing, by the competent</p>	<p>SES confirmed that no changes have taken place.</p>	<p>Compliant</p>	<p>Nil</p>

Compliance Item	Finding	Compliance Rating	Recommendation
authority before such changes or deviations may be implemented. In assessing whether to grant such acceptance/approval or not, the competent authority may request such information as it deems necessary to evaluate the significance and impacts of such changes or deviations and it may be necessary for the holder to apply for further authorisation in terms of the applicable legislation.			
8. The applicant must notify the competent authority in writing, within 24 hours thereof if any condition herein stipulated is not being complied with.	The auditor found no non-compliances with the EA listed in the Sharples Environmental Services cc. Environmental Monitoring Reports.	N/A	Nil
The draft Environmental Management Programme ("EMP") submitted as part of the application for environmental authorisation must: -			
9.1 be amended to:			
9.1.1 incorporate the conditions of authorisation given in this Environmental Authorisation;	Cape Environmental Assessment Practitioners published an updated Environmental Management Programme on 18 October 2021.	Compliant	Nil
9.1.2 include the removal of alien vegetation to coincide with the end of the construction phase;	This Condition is addressed in Section 6.6 Alien Invasive Management Plan of the EMPr	Compliant	Nil
9.1.3 The development of a long-term alien management plan after completion of the project which must include follow up removal of invasive alien vegetation and removal of any rubble at least twice a year for a period of not less than 10 years after construction;	This Condition is not yet applicable.	N/A	Nil
9.1.4 incorporate measures pertaining to the identification and allocation of environmental management roles, responsibilities and accountability, including timeframes for the implementation of the EMP;	This Condition is addressed in Section 4: RESPONSIBILITIES of the EMPr	Compliant	Nil
9.1.5 make provision for the compilation of method statements that are to the satisfaction of the appointed Environmental Control Officer ("ECO");	This Condition is addressed in Section 9: METHOD STATEMENTS of the EMPr	Compliant	Nil
9.1.6 be submitted to the Directorate: Land Management (Region 3) for consideration at least three weeks prior to the commencement of construction activities;	The EMPr was submitted to DEA&DP on 18 October 2021 and DEA&DP approved the EMPr on 17 November 2021.	Compliant	Nil

Compliance Item	Finding	Compliance Rating	Recommendation
9.2 be approved by the Department before the commencement of any construction activities and	The EMPr was submitted to DEA&DP on 18 October 2021 and DEA&DP approved the EMPr on 17 November 2021. However, submitted evidence regarding commencement dates are ambiguous.	The auditor cannot ascertain compliance, or non-compliance for that matter, due to the lack of evidence and information regarding timelines to support a finding either way. Also, the documentation provided as evidence does not include mention of the Competent Authorities response to this non-compliance.	Nil
9.3 meet the requirements outlined in Section 24N (2) & (3) of the National Environmental Management Act, 1998 (Act no 107 of 1998, as amended) ("NEMA") and regulation 34 of the Environmental Impact Assessment Regulations 2010;	The EMPr was submitted to DEA&DP on 18 October 2021 and DEA&DP approved the EMPr on 17 November 2021.	Compliant	Nil
9 An application for amendment to the EMP must be submitted to the competent authority if any further amendments are to be made to the EMP, other than those mentioned above and approved by the competent authority, and this may only be implemented once the amended EMP has been authorised by the competent authority.	There has not been any amendments to the EMP subsequent to the publication of the updated Environmental Management Programme on 18 October 2021.	N/A	Nil
10. The applicant must compile and submit an Environmental Audit Report six months after commencement of construction and thereafter annually with the last report within 12 months after completion of construction activities. Such audit report must indicate the date on which construction activities were commenced with and when it was completed and detail compliance with the mitigation/rehabilitation measures and recommendations referred to in the EMP and conditions of this Environmental Authorisation.	Ecosense CC were appointed to conduct an Environmental Audit, as contemplated in this Condition, on the 17 th of October 2025, 7 months after commencement on 24 March 2025.	Non-compliant	Although the appointment date of the Auditor is slightly over the deadline stipulated in the EA, this finding is not considered material and did not in any way result in an undesirable outcome.
11. Disturbance through the sensitive forest areas must be limited and this area must be demarcated with shade cloth "walling" above and below the work area.	This Condition is addressed in Section 6.3: Demarcation of Work & NO-GO Areas and Section 6.5: Plant Rescue & Habitat Protection of the EMPr.	Compliant	Nil

Compliance Item	Finding	Compliance Rating	Recommendation
12. A clearly demarcated working footprint must be established, prior to construction activities commencing and all areas outside the demarcated area must be treated as no-go areas.	This Condition is addressed in Section 6.3: Demarcation of Work & NO-GO Areas of the EMPr and reported on by the ECO on a monthly basis. No non-compliances have been noted to date.	Compliant	Nil
13. A copy of the environmental authorisation and the EMP must be kept at the site where the listed activities will be undertaken. Access to the site referred to in section C above must be granted and, the environmental authorisation and EMP must be produced to any authorised official representing the competent authority who requests to see it for the purposes of assessing and/or monitoring compliance with the conditions contained herein. The environmental authorisation and EMP must also be made available for inspection by any employee or agent of the applicant who work as or undertakes work at the site.	SES confirmed, that a copy of the EMP is available onsite.	Compliant	Nil
14. The applicant must submit an application for amendment of the environmental authorisation to the competent authority where any detail with respect to the environmental authorisation must be amended, added, substituted, corrected, removed or updated. Further, the rights granted by this environmental authorisation are personal rights (i.e. not attached to a property, but granted to a natural or juristic person). As such, only the holder may undertake the activities authorised by the competent authority. Permission to transfer the rights and obligations contained herein must be applied for in the following manner:	There have not been any amendments to the EMP subsequent to the publication of the updated Environmental Management Programme on 18 October 2021.	N/A	Nil
14.1 The applicant must submit an originally signed and dated application for amendment of the environmental authorisation to the competent authority stating that he/she wishes the rights and obligations contained herein to be transferred, and including (a) confirmation that the environmental authorisation is still in force (i.e. that the validity period has not yet	There have not been any amendments to the EMP subsequent to the publication of the updated Environmental Management Programme on 18 October 2021.	N/A	Nil

Compliance Item	Finding	Compliance Rating	Recommendation
expired or the activity/ies was/were lawfully commenced with); (b) the contact details of the person who will be the new holder; (c) the reasons for the transfer; (d) an originally signed letter from the proposed new holder acknowledging the rights and obligations contained in the environmental authorisation and indicating that he/she has the ability to implement the mitigation and management measures and to comply with the stipulated conditions.			
14.2 The competent authority will issue an amendment to the new holder either by way of a new environmental authorisation or an addendum to the existing environmental authorisation if the transfer is found to be appropriate.	There have not been any amendments to the EMP subsequent to the publication of the updated Environmental Management Programme on 18 October 2021.	N/A	Nil
15. Non-compliance with a condition of this environmental authorisation or EMP may result in suspension of this environmental authorisation and may render the holder liable for criminal prosecution.	The auditor found no non-compliances with the EA listed in the Sharples Environmental Services cc. Environmental Monitoring Reports.	N/A	Nil
16. Notwithstanding this environmental authorisation, the holder must comply with any other statutory requirements that may be applicable to the undertaking of the listed activities.	<p>1. WATER USE LICENCE NO: 16/K30C/CU/2723 FILE NO: 27/2/1/K330/113/6 HAS BEEN OBTAINED FOR:</p> <p>2. Water Uses:</p> <p>2.1 Section 21(c) of the Act: Impeding or diverting the flow of water in a watercourse,</p> <p>2.2 Section 21(i) of the Act: Altering the bed, banks course or characteristics of a watercourse,</p> <p>2. A licence regarding indigenous trees or indigenous vegetation in a natural forest (Section 7(1) of Natural Forests Act (NFA), 84 OF 1998, As Amended for Portion 62 of Farm 197 Sand Kraal and Portion 16</p>	Compliant	Nil

Compliance Item	Finding	Compliance Rating	Recommendation
	<p>of Farm 197 Sand Kraal was issued on the 17th of June 2025.</p> <p>3. A licence regarding indigenous trees or indigenous vegetation in a natural forest (Section 7(1) of Natural Forests Act (NFA), 84 OF 1998, As Amended for RE/325 was issued on the 11th of July 2025.</p>		
<p>17. The holder must appoint a suitably experienced environmental control officer ("ECO") for the construction phase of implementation before commencement of any land clearing or construction activities to ensure compliance with the EMP and the conditions contained herein.</p>	<p>Sharples Environmental Services cc. were appointed as the ECO on 31 October 2024.</p>	<p>The auditor cannot ascertain compliance, or non-compliance for that matter, due to the lack of evidence and information regarding timelines to support a finding either way. Also, the documentation provided as evidence does not include mention of the Competent Authorities response to this non-compliance.</p>	<p>Nil</p>
<p>18. An integrated waste management approach, which is based on waste minimization and incorporates reduction, recycling, re-use and disposal, where appropriate, must be employed. Any solid waste must be disposed of at a landfill licensed in terms of the applicable legislation.</p>	<p>This Condition is addressed in Section 6.1 Waste Management of the EMP and reported on by the ECO on a monthly basis.</p>	<p>Compliant</p>	<p>Nil</p>
<p>19. No surface or ground water may be polluted due to any actions on the site. The applicable requirements with respect to relevant legislation pertaining to water must be met.</p>	<p>The auditor found no non-compliances in this regard listed in the Sharples Environmental Services cc. Environmental Monitoring Reports.</p>	<p>N/A</p>	<p>Nil</p>
<p>20. The applicable requirements with respect to relevant legislation pertaining to cutting, damaging, disturbing or destroying protected trees or trees from a natural forest must be adhered to.</p>	<p>1. A licence regarding indigenous trees or indigenous vegetation in a natural forest (Section 7(1) of Natural Forests Act (NFA), 84 OF 1998, As Amended for Portion 62 of Farm 197 Sand Kraal and Portion 16 of Farm 197 Sand Kraal was issued on the 17th of June 2025.</p>	<p>Compliant</p>	<p>Nil</p>

Compliance Item	Finding	Compliance Rating	Recommendation
	2. A licence regarding indigenous trees or indigenous vegetation in a natural forest (Section 7(1) of Natural Forests Act (NFA), 84 OF 1998, As Amended for RE/325 was issued on the 11th of July 2025.		
21. The applicable requirements with respect to relevant legislation pertaining to occupational health and safety must be adhered to.	SES confirmed that relevant legislation is being adhered to.	Compliant	Nil
22. Should any heritage remains be exposed during excavations or any actions on the site, these must immediately be reported to the Provincial Heritage Resources Authority of the Western Cape, Heritage Western Cape (in accordance with the applicable legislation). Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from Heritage Western Cape. Heritage remains include: archaeological remains (including fossil bones and fossil shells); coins; indigenous and/or colonial ceramics: any articles of value or antiquity; marine shell heaps; stone artifacts and bone remains; structures and other built features; rock art and rock engravings; shipwrecks: and graves or unmarked human burials.	The auditor found no record of heritage remains being uncovered in the Sharples Environmental Services cc. Environmental Monitoring Reports.	N/A	Nil
23. A qualified archaeologist must be contracted where necessary (at the expense of the applicant and in consultation with the relevant authority) to remove any human remains in accordance with the requirements of the relevant authority.	The auditor found no record of heritage remains being uncovered in the Sharples Environmental Services cc. Environmental Monitoring Reports.	N/A	Nil

Table 3: Compliance with the OEMP Requirements

Requirement Item	Findings	Compliance Rating	Recommendation
Mitigation should focus on avoidance of sensitive areas where possible and reducing the development footprint as far as possible, as well as resisting erosion. The most sensitive area identified during the site visit was the forest patch near to the No.6 Pump Station. This area is exceptionally steep and densely vegetated.	Although it was not possible to avoid all the ecologically sensitive areas in the vicinity of Pumpstation 6, it is evident that due care is being taken to minimize the extent of the damage to the indigenous vegetation.	Compliant	Nil
Avoid intact patches of forest and fynbos.	Although it was not possible to avoid all the ecologically sensitive areas in the vicinity of Pumpstation 6, it is evident that due care is being taken to minimize the extent of the damage to the indigenous vegetation.	Compliant	Nil
All trenches dug for the sewer lines, should not be left open for extended periods of time as fauna may fall in and become trapped in them. In addition, open trenches are often used as dumpsites by the local community.	Open trenches are kept to a minimum.	Compliant	Nil
Where roots of indigenous trees are encountered along the pipeline route, care must be taken to absolutely minimise root damage as far as practicable. For instance, the work could be done by digging around the roots and tunnelling under them by hand, and then sliding the pipe section underneath the roots to place it.	The nature of the works and the diameter of the pipeline makes this condition impractical, if not impossible to comply with. The auditor recommends that this condition be removed during the EMP revision process.	N/A	Nil

Contractor's Site Camp

Requirement Item	Findings	Compliance Rating	Recommendation
The Contractors Site Camp must be established in consultation with the ECO.	SES confirmed that this was done.	Compliant	Nil
The site camp may not be erected on any areas considered sensitive	SES confirmed that this was done.	Compliant	Nil
No indigenous vegetation may be removed, damaged or disturbed without consent from the ECO.	A forestry permit was granted on the 17th of June 2025.	Compliant	Nil
The Contractors Site Camp must be situated within the development area, but further than 40m from any drainage line or watercourse.	The site camp is located inside the footprint of the approved location of the pump station.	Compliant	Nil

Off-site Site Camps may only be erected once written permission from the landowner is obtained and any other necessary authorisations are in place.	There were no off-site site camps in evidence during the audit site inspection.	Compliant	Nil
Topsoil from the site camp area must be stripped and stockpiled for re-use during rehabilitation.	SES provided photographic evidence of compliance that this was done.	Compliant	Nil
The temporary fuel storage in the construction site camp must be bunded.	Confirmed during the audit site inspection.	Compliant	Nil
The site camp must be fenced off with shade netting.	Confirmed during the audit site inspection.	Compliant	Nil
All construction material must be stored in the site camp, unless otherwise approved by the ECO.	Confirmed during the audit site inspection.	Compliant	Nil
No personnel may overnight in the site camp, except in the case of a night watchman / security.	Confirmed during the audit site inspection.	Compliant	Nil
Fires for cooking and/or heating are only allowed within the site camp after consultation with the Health and Safety Representative.	Confirmed during the audit site inspection.	Compliant	Nil
Fuel may only be stored in the camp site.	Confirmed during the audit site inspection.	Compliant	Nil
Storage of waste must take place within the site camp and must be removed on a regular basis.	Confirmed during the audit site inspection.	Compliant	Nil
The site camp must be provided with sufficient ablution facilities (toilets and potable water) of which the content must be disposed of regularly and at the suitable facilities.	Confirmed during the audit site inspection.	Compliant	Nil

Demarcation of Work & No-Go Areas

The demarcation of no-go areas is as follows:

Requirement Item	Findings	Compliance Rating	Recommendation
The exact alignment of the construction area to be surveyed and pegged during the pre-construction phase;	SES confirmed that this was done.	Compliant	Nil
The full extent of the work area along the pipeline routes must be demarcated	Confirmed during the audit site inspection.	Compliant	Nil
The particularly sensitive forest patches in valley in proximity of the Pumpstation No.6 and fynbos area south-west of the 'All-Brick' property) will be subject to working footprint of 4m;	Confirmed during the audit site inspection.	Compliant	Nil
The contractor in conjunction with the ECO must walk the areas determined and mark the full extent of the area to be disturbed;	SES confirmed that this was done.	Compliant	Nil

This disturbance is to be clearly marked with a double strand of wire with danger tape placed between strands;	Confirmed during the audit site inspection.	Compliant	Nil
All areas outside this demarcated area are considered as “no-go” areas for any construction;	Confirmed during the audit site inspection.	Compliant	Nil
The sensitive vegetation outside of the work area along the Schaapkop River must be demarcated as a “no-go” area.	Confirmed during the audit site inspection.	Compliant	Nil
Construction staff must be briefed as part of the environmental induction on the requirements regarding the no-go areas.	An Environmental induction was conducted on the 29th of April 2025	Compliant	Nil

Environmental Awareness and Training

Requirement Item	Findings	Compliance Rating	Recommendation
The ECO in consultation with the contractor shall ensure that adequate and on-going environmental awareness training of site personnel takes place.	The ECO conducts inductions and maintains an induction register.	Compliant	Nil
The presentation shall be conducted, as far as is possible, in the employees’ language of choice.	SES confirmed that this was done.	Compliant	Nil
<p>As a minimum, training should include:</p> <ul style="list-style-type: none"> • Explanation of the importance of complying with the EMPr; • The potential environmental impacts of construction activities; • The benefits of improved personal performance; • Employees’ roles and responsibilities, including emergency preparedness; • Explanation of the mitigation measures that must be implemented; • Explanation of the specifics of this EMPr and its specification (no-go areas, fire policy, waste management and others); and • Explanation of the management structure of individuals responsible for matters pertaining to the EMPr. • The Contractor must keep records of all environmental training sessions, including names, dates and the information presented. 	Environmental awareness booklets are used as training material. The auditor was provided with a copy of the booklet and found it to be sufficiently comprehensive.	Compliant	Nil

<ul style="list-style-type: none"> Details of the Environmental Induction/s must be included in the Environmental Control Report as submitted to the DEA&DP. 			
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Plant Rescue & Habitat Protection

Requirement Item	Findings	Compliance Rating	Recommendation
A pre-construction walk-through of the sewer line route must be undertaken within the identified sensitive areas to identify and demarcate any species of conservation concern that can be translocated or avoided. Special attention should be given to large specimens of indigenous trees.	SES confirmed that this was done.	Compliant	Nil
In the event that natural forest habitat and/or protected trees species cannot be avoided, a license under the National Forest Act to disturb forest and protected trees, must be obtained from the Department of Forestry, Fisheries and Environment (DFFE) before any forest or protected trees be trimmed, transplanted or damaged.	<p>1. A licence regarding indigenous trees or indigenous vegetation in a natural forest (Section 7(1) of Natural Forests Act (NFA), 84 OF 1998, As Amended for Portion 62 of Farm 197 Sand Kraal and Portion 16 of Farm 197 Sand Kraal was issued on the 17th of June 2025.</p> <p>2. A licence regarding indigenous trees or indigenous vegetation in a natural forest (Section 7(1) of Natural Forests Act (NFA), 84 OF 1998, As Amended for RE/325 was issued on the 11th of July 2025.</p>	Compliant	Nil
Plants of conservation value, found during the pre-construction site assessment / walk-through, should be carefully removed (with as much of the roots as possible) and transplanted immediately outside the construction work area / disturbance corridor. Alternatively, these rescued plants should be bagged and stored in a suitably protected area for use in rehabilitation and landscaping activities.	SES confirmed that no plants of conservation value were found.	Compliant	Nil

Alien Invasive Management Plan

Requirement Item	Findings	Compliance Rating	Recommendation
Control of alien invasive plant species along the sewer pipeline disturbance corridor / servitude must commence as part of the site clearance operation and continue in parallel for the duration of the construction period.	This Condition is addressed in Section 6.6: Alien Invasive Management Plan of the EMPr.	Compliant	Nil
The complete removal of alien invasive plants from the entire sewer pipeline servitude must coincide with the end / completion of the construction contract.	Not applicable yet.	N/A	Nil
A long-term alien invasive plant control / management plan must be developed within 3-months of completion of the project, which includes follow-up removal operations and removal of any rubble or waste along the sewer pipeline servitude every 6-months (twice a year) for a period of not less than 10-years after construction.	Not applicable yet.	N/A	Nil
The following measures must be implemented as a minimum:			
In areas of steep slopes and within / near sensitive indigenous vegetation, clearing of invasive vegetation must take place by hand only. In areas outside steep slopes / sensitive indigenous vegetation heavy machinery can be used;	SES provided the following feedback on this issue: <i>"We believe clearing wasn't directly undertaken on the steep slopes, however widening the work area likely covered the vegetation on the verge of the steep slopes or it was pushed over by an excavator."</i>	N/A	Nil
No heavy machinery (bull-dozers, excavators, trackers etc.) in proximity to the banks of the Schaapkop River;	SES reported that heavy machinery was in fact used in close proximity to the banks of the Schaapkop River.	Non-compliant	Although the applicant did not comply with this condition, it does seem that the use of heavy equipment was the only practical solution in this instance. Consideration should be given to amending this condition.
Cut stumps are to be treated with a suitable herbicide to prevent coppicing and regrowth.	SES confirmed that "some" invasive aliens have been treated, and that they provided method statements for this activity. However, SES states that no evidence of compliance was submitted to them.	Non-compliant	If evidence to the contrary exists, it must be submitted to the competent authority to be read in conjunction with this finding.
Under no circumstances may herbicide equipment (sprayers, containers, brushes, nozzles etc.) be emptied or cleaned near or within the Schaapkop River. All such	SES confirmed compliance.	Compliant	Nil

equipment must be emptied and cleaned offsite, under controlled conditions;			
Disturbance to the soil must be limited, therefore roots and stem stumps of cut trees must be left in situ, where possible;	Confirmed during audit site visit.	Compliant	Nil
To minimise fire risk, all cut material must be taken out of the pipeline servitude. Usable wood can be stockpiled in an area defined by the ECO, where residents of Thembaletu can have access to it for cooking and heating, under control conditions;	Cut material has been stockpiled in various locations along the pipeline route and poses a fire risk.	Non-compliant	Cut material should be removed and stockpiled off-site or disposed of in accordance with Section 6.6: Alien Invasive Management Plan of the EMP
Care should be taken to curb the spread of seed (and vegetative re-growth in the case of Madiera Vine) when removing and disposing of the cut material.	SES reported that “ <i>no care was undertaken as especially the first section from the pumpstation was cleared by excavator</i> ”.	Non-compliant	This practice should be instated immediately, in accordance with Section 6.6: Alien Invasive Management Plan of the EMP
Seeding with grass along the steep banks with species such as Eragrostis curvula to create a perennial plant cover which discourages alien invasion.	Not applicable yet.	N/A	Nil
Regular alien clearing within the sensitive areas such as the intact forest patches along the access track.	Alien clearing is ongoing.	N/A	Nil
An Alien Management Programme should be compiled and should include a Management Fund to ensure it can be implemented into the future and not only post construction phase (CapeNature recommendation).	This Condition is addressed in Section 6.6: Alien Invasive Management Plan of the EMP but the actual implementation thereof will rest with the Municipality during the operational phase of the project.	N/A	Nil

Fire Management and Protection

The following points should be considered with regards to fire protection, considering the proximity of the residential settlements, as well as the densely vegetated (with high alien plant biomass loads) within River Valley:

Requirement Item	Findings	Compliance Rating	Recommendation
Total removal of all invasive alien vegetation material from the entire sewer servitude;	This Condition is addressed in Section 6.6: Alien Invasive Management Plan of the EMP and was confirmed during the site visit.	Compliant	Nil
Under no circumstances should plant bulk biomass or waste material be burned on-site;	No evidence of any fires was found on site during the audit site visit.	Compliant	Nil
Construction staff and residents should be made aware of potential fire risks – cigarette butts and unsupervised fires	Potential fire risks are covered in environmental awareness training.	Compliant	Nil

- the Contractor with input from the ECO, must designate smoking areas ;			
In case of an emergency, the contact details of the local fire and emergency services must be readily available (sign-posted within the Contractor site camp);	A comprehensive list of Emergency and Important Numbers is included in the EMPr.	Compliant	Nil
Contractors and the Municipality must ensure that basic firefighting equipment is available on site;	Confirmed during audit site visit.	Compliant	Nil
No fires shall be allowed in proximity to the Schaapkop River; and	No evidence of any fires was found on site during the audit site visit.	Compliant	Nil
The fire risk on site and fire-fighting training must be a point of discussion as part of the environmental induction training.	Firefighting training is covered in toolbox talk topics.	Compliant	Nil

Erosion Control & Stormwater Management

Requirement Item	Findings	Compliance Rating	Recommendation
The design of the temporary stormwater management measures must ensure that:			
Discharge points must be contained within the bounds of the site / disturbance corridor and negate erosion. These stormwater structures should promote the dissipation and infiltration of run-off on the site.	Confirmed during audit site visit.	Compliant	Nil
Stormwater control measures and discharge points should contain silt and garbage / litter traps.	Confirmed during audit site visit.	Compliant	Nil
These measures should serve to promote run-off infiltration and soak-away, to allow sub-surface seepage, rather than surface flow.	Confirmed during audit site visit.	Compliant	Nil
The positioning and on-going maintenance of these stormwater management measures / structures should be determined by the engineer in consultation with the ECO.	SES confirmed that this is being done.	Compliant	Nil
Areas that are identified as being prone to erosion must be suitably protected with for e.g. silt fencing and/or sand bags during the earthworks / construction period.	Extensive evidence of erosion starting to take place was found during the audit site visit. Please see photographic evidence in Section 6.3.	Non-compliant	Erosion prevention measures must be implemented urgently.
During construction, the Contractor shall protect all areas susceptible to erosion by installing necessary temporary and permanent drainage works.	Extensive evidence of erosion starting to take place was found during the audit site visit. Please see photographic evidence in Section 6.3.	Non-compliant	Erosion prevention measures must be implemented urgently.

Any erosion channels within the construction site, or new ones that develop during construction on steep slopes must be backfilled, compacted and restored to an acceptable condition. Regular monitoring for erosion along the access track. Erosion problems should be rectified on a regular basis. Culverts and pipe bridges should be inspected on a regular basis for erosion and rectified where necessary.	There are several erosion runnels in evidence along the pipeline route. Please see photographic evidence in Section 6.3.	Non-compliant	Erosion prevention measures must be implemented urgently.
Stabilisation of cleared areas to prevent and control erosion and/or sedimentation shall be actively managed. retaining cut slopes with the installation of permanent retaining wall structures, brush-cut packing, mulch or chip cover, straw stabilising, planting of vegetation (refer to Section 6.19 below), soil binders and anti-erosion compounds, mechanical cover or packing structures (including the use of geofabric, log/pole fencing) & installation of biddum or shade cloth silt screens.	Extensive evidence of erosion starting to take place was found during the audit site visit. Steep slopes are left bare and unstabilised, which could lead to severe erosion and possibly even landslides. Please see photographic evidence in Section 6.3.	Non-compliant	Erosion prevention measures must be implemented urgently.
Traffic and movement over stabilised areas shall be restricted and controlled, and damage to stabilised areas shall be repaired and maintained to the satisfaction of the ECO.	Confirmed during audit site visit.	Compliant	Nil
In areas where construction activities have been completed rehabilitation and re-vegetation should commence.	No areas of the works are ready to be rehabilitated yet.	N/A	Nil
The Contractor shall, as an ongoing exercise, implement erosion and sedimentation control measures to the satisfaction of the ECO.	SES have expressed frustration at their repeated calls for improved erosion control and slope stabilisation not being adhered to by the Contractor.	Non-compliant	In the Auditor's opinion the ongoing lack of erosion control and slope stabilisation poses a serious environmental risk. This must be remedied as a matter of urgency.

Topsoil Handling

Requirement Item	Findings	Compliance Rating	Recommendation
Topsoil must be stockpiled separately from the sub-soil and the sub-soil should be used first to fill the trench followed by the topsoil.	SES provided photographic evidence of topsoil stockpiling.	Compliant	Nil
Topsoil must not be mixed with sub-soils or any building material (clay, gravel or building sand/stone) or pollutant.	SES confirmed compliance	Compliant	Nil
The following requirements regarding topsoil handling must be considered:			
A minimum 150mm layer of topsoil from the entire sewer alignment corridor should be stripped and stockpiled;	SES provided photographic evidence of topsoil stockpiling.	Compliant	Nil
The topsoil placement and stockpiles must be approved by the ECO and may not be within the 30m of any slope of drainage line;	SES provided photographic evidence of topsoil stockpiling.	Compliant	Nil
The topsoil may not be stockpiled within the riparian zone or 1:100 year flood line (whichever is the greatest);	SES confirmed that stockpiles are located outside the Riparian zone and above the 1:1000 year flood line.	Compliant	Nil
The topsoil stockpile must be protected from erosion as indicated by the ECO (silt fences etc.); and	SES provided photographic evidence of topsoil stockpiling.	Compliant	Nil
The topsoil must be replaced onto disturbed areas (sewer alignment etc.) on completion of construction.	Construction is still in progress.	N/A	Nil

Noise Control

Requirement Item	Findings	Compliance Rating	Recommendation
Noise generation be kept to a minimum and construction activities be confined to (08:00 - 17:00 on workdays).	SES confirmed that construction activities are confined to 07:00 – 17:00.	Compliant	Nil
The following noise abatement (reduction of intensity and amount) measures should be implemented: <ul style="list-style-type: none"> Construction vehicles adhering to approved access routes and maximum speed limits; Adherence to the National Building Regulations and Section 25 of ECA to minimise noise impacts; Provide absorptive linings to the interior of engine compartments; Ensure machinery is properly maintained; 	SES confirmed that noise abatement measures are implemented.	Compliant	Nil

<ul style="list-style-type: none"> • Provide baffle and noise screens to noisy machines as necessary; • Switch off machinery when not in use; and • Reduce impact noise by careful handling of equipment and machinery. 			
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Waste Management

Requirement Item	Findings	Compliance Rating	Recommendation
Only approved waste disposal methods will be allowed.	Confirmed during audit site visit.	Compliant	Nil
The Contractor shall ensure that fenced / enclosed waste storage site be established in the Site Camp (scavenger proof) and that all site personnel are instructed in the proper disposal of all waste.	Confirmed during audit site visit.	Compliant	Nil
The Contractor shall ensure that sufficient disposal facilities (refuse bins and cigarette butt receptacles) are available.	Confirmed during audit site visit.	Compliant	Nil
The contractor is to familiarize themselves with the requirements of the National Environmental Management Waste Act. NO activities listed in terms of this act may commence without a Waste License.	Confirmed during audit site visit.	Compliant	Nil
Recycling bins must be provided at the contractor's camp and clearly marked.	Confirmed during audit site visit.	Compliant	Nil
It is recommended that local community leaders be contacted to identify groups or individuals who may benefit from the disposal of recyclable material and scrap metal, if any.	N/A	N/A	Nil
The disposal of all general and construction waste must take place at a licensed landfill (the Contractor must ascertain where the closest licensed landfill site is situated).	Confirmed during audit site visit.	Compliant	Nil

Solid Waste

Requirement Item	Findings	Compliance Rating	Recommendation
The Contractor shall maintain good house-keeping. No litter.	Confirmed during audit site visit.	Compliant	Nil

Solid waste that cannot be recycled or re-used may be temporarily stored on site in a designated area in the site camp prior to collection and disposal.	Confirmed during audit site visit.	Compliant	Nil
Solid waste must be removed on a weekly basis to a licensed waste disposal site.	Confirmed during audit site visit.	Compliant	Nil
Recyclable waste should be recycled whenever possible.	Confirmed during audit site visit.	Compliant	Nil
Waste storage containers shall be covered, tip-proof, weatherproof and scavenger proof. The waste storage area shall be fenced off to prevent wind-blown litter.	Confirmed during audit site visit.	Compliant	Nil
No burning, on-site burying or dumping of waste shall occur.	Confirmed during audit site visit.	Compliant	Nil
Used (empty) cement bags shall be collected and stored in weatherproof containers to prevent windblown cement dust and water contamination. Used cement bags may not be used for any other purpose and shall be disposed of on a weekly basis via the solid waste management system.	Confirmed during audit site visit.	Compliant	Nil
All solid waste shall be disposed of offsite at a licensed landfill site. The Contractor shall supply the ER and ECO with certificates of disposal.	SES confirmed compliance and provided proof of waste disposal receipts.	Compliant	Nil

Construction Rubble and Waste

Requirement Item	Findings	Compliance Rating	Recommendation
All construction rubble must be disposed of at an approved site (no construction rubble may be spoiled anywhere on site or adjacent to site). NO construction rubble may be used as fill or any other areas on site.	Confirmed during audit site visit.	Compliant	Nil

Scrap Metal

Requirement Item	Findings	Compliance Rating	Recommendation
Recycling scrap metal is recommended. Scrap metal must be disposed of offsite at suitable facilities.	Confirmed during audit site visit.	Compliant	Nil

Hazardous Waste

Requirement Item	Findings	Compliance Rating	Recommendation
Any potentially hazardous waste (including bitumen, fuel, oils, paints etc.) shall be disposed of at approved hazardous landfill site.	SES stated that no bituminous or asphalt products have been used thus far.	Compliant	Nil
The Contractor shall provide disposal certificates to the ECO.	SES confirmed compliance and provided proof of waste disposal receipts.	Compliant	Nil
Unused or rejected asphalt or bituminous products must be returned to the supplier's production plant. Under NO circumstances may, bituminous or paint products be spoiled on the site.	SES confirmed compliance and provided proof of waste disposal receipts.	Compliant	Nil
Where possible, the maintenance of vehicles should take place off site.	SES confirmed compliance.	Compliant	Nil

Sanitation

Requirement Item	Findings	Compliance Rating	Recommendation
Chemical ablution facilities must be available for the use by construction staff for the duration of the construction period.	Confirmed during audit site visit.	Compliant	Nil
Toilet and hand washing facilities must be available to the site personnel at all times in the site camp;	Confirmed during audit site visit.	Compliant	Nil
One toilet for every 15 personnel is required;	Confirmed during audit site visit.	Compliant	Nil
Portable ablution facilities may not be positioned with 50m of the edge of the Schaapkop River Valley slope;	Confirmed during audit site visit.	Compliant	Nil
The toilets should be secured to ensure that they do not blow over in windy conditions;	Confirmed during audit site visit.	Compliant	Nil
The workforce must not use forested areas or the river as a toilet – these areas are NO-GO;	Confirmed during audit site visit.	Compliant	Nil
The facilities must be serviced on a regular basis;	Flushable toilets are used onsite; cleaning routine registers are available onsite.	Compliant	Nil
The servicing contractor must dispose of the waste in an approved manner;	Flushable toilets are used onsite; cleaning routine registers are available onsite.	Compliant	Nil
The ECO must be provided with the service providers' details and the service schedule for the site;	Permanent toilets are provided at the Pumpstation. These are connected directly to the sewerage infrastructure so no chemical ablution contractor is required	N/A	

All toilet facilities must be removed from site on completion of the contract period; and	This condition is not applicable yet.	N/A	Nil
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Concrete Batching

Requirement Item	Findings	Compliance Rating	Recommendation
Concrete batching may only take place in areas approved by the ECO.	This condition is addressed in Section 6.13 of the EMPr.	Compliant	Nil
Concrete mixing areas must have bund walls or a settling pond in order to prevent cement run off.	Concrete mixing is done on an impermeable surface.	Compliant	Nil
All concrete batching should take place on a hard surface.	There is no concrete batching plant onsite. Concrete mixing is done onsite on impermeable surfaces.	Compliant	Nil
Concrete batching areas may not be located within 30m of the riparian zone or 1:100 year flood line (whichever is the greatest) or where there is a potential for any spilled concrete to enter a watercourse or groundwater.	There is no concrete batching plant onsite. Concrete mixing is done onsite on impermeable surfaces.	Compliant	Nil
If an area outside of the site camp is identified for batching it must first be approved by the ECO and all topsoil must be stripped and stockpiled for reuse.	There is no concrete batching plant onsite. Concrete mixing is done onsite on impermeable surfaces.	Compliant	Nil
Batching at satellite sites (such as drainage culverts underneath the bulk services alignment) must be done on a batching plate i.e. wood or metal sheet, to prevent soil and water contamination.	Confirmed, no batching is done on satellite sites.	Compliant	Nil

Fuel Storage

Requirement Item	Findings	Compliance Rating	Recommendation
The above-ground storage of fuel is subject to authorization in terms of NEMA, if more than 30m ³ is stored on site at any one time.	Fuel is stored in a bowser in the site camp.	Compliant	Nil
Should a temporary fuel storage facility be required, the Contractor must ensure compliance with legislation and that the following measures are in place:	The fuel bowser complies with Regulatory requirements. Confirmed during audit site visit.	Compliant	Nil
Temporary fuel storage may only take place within the contractors site camp in an area approved by the ECO	Confirmed during audit site visit.	Compliant	Nil
Mobile fuel units used to refuel plant on site must make use of drip trays when refueling;	Confirmed during audit site visit.	Compliant	Nil

Dust Management

Requirement Item	Findings	Compliance Rating	Recommendation
Construction vehicles must adhere to speed limits and minimization of haul roads must be implemented.	Signage and speed controls are in place.	Compliant	Nil
During dry dusty periods haul roads should be kept dampened to prevent excess dust. No potable water may be used for damping haul roads.	Confirmed, dust generated onsite is minimal.	Compliant	Nil
As an alternative products such as road environment dust suppressants could be used. This is to be determined by the ECO during construction as required.	SES reported that this is not required as dust generated onsite is minimal.	Compliant	Nil
Exposed stockpile materials (e.g. topsoil or base-layer / building sand) must be protected against wind	There were no exposed stockpiles visible during the audit site visit.	Compliant	Nil

Access / Traffic Management During Construction

Requirement Item	Findings	Compliance Rating	Recommendation
Existing access roads and tracks must be used as far as possible for construction traffic access road (no new accesses should be created, unless aligned along proposed permanent roads / access tracks).	Site access is gained via existing Municipal roads. On-site traffic is limited to the pipeline route.	Compliant	Nil
Conflicts between construction vehicles and public vehicles should be minimised and priority given public vehicles.	Confirmed	Compliant	Nil
Access to areas on the site where construction is taking place should be restricted by means of signage.	Confirmed during site visit.	Compliant	Nil
Liaison should take place with the local residents of Thembalethu and the George Municipality regarding construction traffic concerns. Information could be extended to those residents that will be directly affected directly.	SES confirmed compliance	Compliant	Nil
Construction traffic should be restricted to daylight hours, and outside peak traffic times in the morning and afternoon.	Confirmed during site visit.	Compliant	Nil
Adequate and clearly visible road signage should be implemented on the site, at the new access points, throughout the duration of the construction period.	Confirmed during site visit.	Compliant	Nil

Temporary Lighting During Construction

Requirement Item	Findings	Compliance Rating	Recommendation
Lighting on site is to be sufficient for safety and security purposes of the Site Camp only, but shall not be intrusive to on-site or neighbouring residents, disturb wildlife, or interfere with road traffic;	Construction activities are conducted during daylight only. No lighting is needed on site.	Compliant	Nil
Should overtime/night work be authorised, the contractor shall be responsible to ensure that lighting does not cause undue disturbance to on-site or neighbouring residents nor the riparian habitat; and	No overtime or night work is done onsite.	Compliant	Nil
Only low flux and low frequency lighting shall be utilised.	Working hours are confined to 07:00 – 17:00. No lighting is required onsite.	Compliant	Nil

Theft and Other Crime

Requirement Item	Findings	Compliance Rating	Recommendation
It is recommended that the contractor develop a jobsite security plan prior to commencement of construction.	The auditor questions whether this section is appropriate for inclusion in an EMPr and recommends that it be removed during the EMPr revision process.	N/A	N/A
All incidents of theft or other crime should be reported the South African Police Service.			
A copy of the jobsite security plan should be included in the first environmental control report to be submitted to the DEA&DP by the ECO.			
The site demarcation/fencing during construction, should be of a nature to curtail access into the Contractor Site Camp after hours			
It is recommended that a security guard be placed on duty during after-hours and weekends.			

Re-Vegetation / Rehabilitation Plan

Requirement Item	Findings	Compliance Rating	Recommendation
<p>The rehabilitation areas will be limited to areas along the bulk infrastructure alignment corridor and river / stream crossings.</p>	<p>The project is still in the construction phase and these conditions do not apply yet.</p>	<p>N/A</p>	<p>N/A</p>
<p>The following trees should be considered for replanting along the pipeline servitudes. These are to be used in addition to the plants rescued for transplant prior to construction.</p> <ul style="list-style-type: none"> • Ekebergia capensis (Cape Ash) • Grewia occidentalis (Cross-berry) • Virgillia oroboides (Keurboom) • Burchellia bubalina (Wild Pomegranate) • Buddleja salviifolia (Sagewood) • Halleria lucida (Tree Fuchsia) • Syzygium cordatum (Water Berry) • Nuxia floribunda (Forest Elder) • Afrocarpus falcatus (Outeniqua Yellowwood) • Afrocarpus latifolius (Real Yellowwood) • Celtis africana (White Stinkwood) • Vepris lanceolata (White Ironwood). 			
<p>The tree planting should take place after removal of alien vegetation and within the construction period. Input from Cape Nature and the Department of Forestry must be sought for confirmation of the plant species.</p>			
<p>All areas disturbed by excavation / construction activities should be re-vegetated with an indigenous seed mix in consultation with an indigenous plant expert.</p>			
<p>Compacted and disturbed areas on steep slopes must be shaped and scarified to natural forms to follow and parallel to the original contour. Topsoil should be returned to areas where subsoils have been exposed or compacted and indigenous grass seed or sods (Kweek / Cynodon dactylon & Buffalo / Stenotaphrum secundatum) should be placed to stimulate fast re-vegetation / groundcover and reduce erosion risks. Fast-growing annual grasses, such as Teff or Rye may be</p>			

added to the grass seed mix to speed up this re-vegetation process.			
Kweek to Teff seed should be mixed and sown at a ratio of 1:2 (1: Kweek, 2:Teff), at a distribution rate of approx. 20 – 25kg per hectare. As a general principle, the grass seed should be sown at a depth of no more than double that of the size of the seed. In all cases, this will amount to a depth of no more than 5mm i.e. it is NOT necessary to bury the seed once sown. Simply hand-rake the soil (loosen) for seeding, sow the seed over the soil, then tamp loose soil down with the front of the rake or spade.			
Kweek / Buffalo grass sods can be pegged into place on very steep slopes, aligned parallel to the contours, as a further erosion control and rehabilitation measure. Disturbed steep slopes should also be covered with a layer of mulch / brush to shelter germinating seeds and stimulate re-vegetation and stabilization by plant growth.			

Social Requirements - Use of Local Labour

Requirement Item	Findings	Compliance Rating	Recommendation
It is strongly recommended use of local labour as far as possible for the.	There are 23 local labour under Icon Construction that is fully used and 1 local subcontractor with 8 local labour.	Compliant	Nil
Records should be kept of all personnel under the main contract, as well as those under any subcontractors EMPloyed by the contractor.	All personell records are kept under Icon Construction, including local subcontractors	Compliant	Nil
The main contractor must provide breakdowns of staff.	SES provided the auditor with an organogram.	Compliant	Nil
Financial records should be kept indicating the financial contribution to the local economy through the input into wages and the use of local suppliers.	Monthly local labour wage reports are conducted and submitted to the George Municipality.	Compliant	Nil

Heritage Requirements

Requirement Item	Findings	Compliance Rating	Recommendation
Should any evidence of human burials or heritage remains be exposed during excavations all works must be stopped immediately and these must be immediately	No human remains or fossils have been discovered during the construction.	N/A	Nil

reported to the Provincial Heritage Resource Authority of the Western Cape			
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Method Statements

Requirement Item	Findings	Compliance Rating	Recommendation
The Contractor shall be required to prepare method statements for several specific construction activities and/or environmental management aspects.	SES provided all the approved method statements prepared for this project.	Compliant	Nil
The Contractor shall not commence the activity for which a method statement is required until the Engineer and ECO have approved the relevant method statement.	SES provided all the approved method statements prepared for this project.	Compliant	Nil
Method statements must be submitted at least five (5) days prior to the date on which approval is required (start of the activity). Failure to submit a method statement may result in suspension of the activity concerned until such time as a method statement has been submitted and approved.	SES provided all the approved method statements prepared for this project.	Compliant	Nil
An approved method statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the contract.	These two conditions are noted but not relevant to the audit.		
Additional method statements can be requested at the ECO's discretion at any time during the construction phase.			
The method statements shall cover relevant details with regard to: Construction procedures and location of the construction site. <ul style="list-style-type: none"> • Start date and duration of the procedure. • Materials, equipment and labour to be used. • How materials, equipment and labour would be moved to and from the site as well as on site during construction. • Storage, removal and subsequent handling of all materials, excess materials and waste materials of the procedure. 	SES provided all the approved method statements prepared for this project. All the aspects required under this condition are covered.	Compliant	Nil

<ul style="list-style-type: none"> • Emergency procedures in case of any reasonably potential accident / incident which could occur during the procedure. • Compliance / non-compliance with the EMPr specification and motivation if non-compliant. 			
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Method Statements Required:

Based on the specifications in this EMPr, the following method statements are required as a minimum:

Requirement Item	Findings	Compliance Rating	Recommendation
Demarcation of work and NO-GO areas;	This aspect is covered in the method statements provided to the auditor.	Compliant	Nil
Hazardous substances declaration of use - Petroleum, chemical, harmful and hazardous materials;	This aspect is not covered in the method statements provided to the auditor.	Non-compliant	A method statement covering this aspect must be drawn up and implemented.
Cement and concrete batching;	No batching plant on site	N/A	Nil
Traffic accommodation (if necessary);	This aspect is covered in the method statements provided to the auditor.	Compliant	Nil
Solid waste control system;	This aspect is covered in the method statements provided to the auditor.	Compliant	Nil
Wastewater / stormwater control system, particularly stormwater management (temporary and permanent) in the vicinity of the on-site breached dam.	No stormwater management plan is required as there is an existing stormwater infrastructure on site.	N/A	Nil
Erosion remediation and stabilisation;	This aspect is not covered in the method statements provided to the auditor.	Non-compliant	A method statement covering this aspect must be drawn up and implemented.
Fire control and emergency procedures;	This aspect is covered in the method statements provided to the auditor.	Compliant	Nil
Alien vegetation-clearing programme;	A comprehensive alien clearing program is in place, obviating the need for a method statement.	Compliant	Nil
Trenching and Pipeline installation for sensitive areas along the Schaapkop River	This aspect is not covered in the method statements provided to the auditor.	Non-compliant	According to SES this has been provided but the aspect is discussed at length on site. The Auditor nonetheless recommends that a method statement covering this aspect must be drawn up and implemented.

6.3 Additional Findings

Some of the issues identified above warrant more detailed discussion than is possible in the format of Tables 2 and 3. The auditors have also identified additional areas of concern that could lead to contraventions of regulatory requirements. These are all discussed below.

6.3.1 Topsoil Management and Erosion Control

During the audit site inspection, the auditor noticed that cut slopes were very steep in places and that the exposed material had not been stabilised. This poses a risk of slopes collapsing, landslides and damage to adjacent structures and dwellings. The auditor strongly recommends that the Engineer be requested to provide an opinion on the stability and inherent safety of these slopes. Where necessary, corrective measures must be implemented as a matter of urgency. The following photographs serve to illustrate the issue:





The last two images above show erosion gullies starting to form on the un-stabilised cut slopes.

6.3.1 Cut Vegetation Management

Cut vegetation management is another source of concern. Various instances were noted where cut vegetation had simply been stacked or stockpiled and not been removed from site. This increases the fire load in the area significantly. The following photographs serve as illustration of the problem.



6.3.3 Cross-reference with Regulation 34 Audit Objectives

The following table summarises the extent of compliance with the requirements of the EIA regulations.

Table 4: Details of compliance auditing as required by NEMA Audit Objectives

NEMA Audit Objective	Audit compliance
1. The objective of the environmental audit report is to – (a) report on—	
(i) the level of compliance with the conditions of the environmental authorisation and the EMPr, and where applicable, the closure plan; and	Table 1 of this audit report fulfils this function.
(ii) the extent to which the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan achieve the objectives and outcomes of the EMPr, and closure plan;	Section 2.2 and Section 3 of this audit report fulfils this function.
(b) identify and assess any new impacts and risks as a result of undertaking the activity;	Section 2.2 of this report deals with issues not captured or addressed in the OEMP.
(c) evaluate the effectiveness of the EMPr, and where applicable, the closure plan;	Table 1 of this audit report fulfils this function.
(d) identify shortcomings in the EMPr, and where applicable, the closure plan; and	Table 1 of this audit report fulfils this function.
(e) identify the need for any changes to the avoidance, management and mitigation measures provided for in the EMPr, and where applicable, the closure plan.	Section 2.2 and Section 3 of this audit report fulfils this function.

7 Conclusions

The Auditor found that the extent of the Applicant’s compliance with the 29 Conditions and Sub-conditions imposed by the Environmental Authorisation to be as follows:

- Conditions 1-4 deal with notification of appeals process which have been exempted:
*“The applicant is herewith exempted from the following provisions of the NEMA EIA Regulations: Regulation 10(2) (d) of Government Notice No. R.543, which reads as follows:
10(2) The applicant must, in writing, within 12 days of the date of the decision of the application publish a notice -*
 - I. informing interested and affected parties of the decision;*
 - II. informing interested and affected parties where the decision can be accessed; and*
 - III. drawing the attention of interested and affected parties to the fact that an appeal may be lodged against the decision in terms of Chapter 7 of these Regulations, if such appeal is available under the circumstances of the decision, in the newspapers contemplated in regulation 54(2) (c) and (d) and which newspaper was used for the placing of advertisements as part of the public participation process.”*
- Items 5-6 deal with the location of the activities and are no applicable to the scope of this audit
- Two non-compliances were found. These relate to Notice of Commencement given to the Competent Authority (Condition 4) and the deadline for the appointment of the External Auditor (Condition 10). The Auditor does not regard either of these non-compliances to be significant.
- Fifteen instances of Compliance were found.
- Compliance with Conditions 9.2 and 17 could not be ascertained due to the lack of evidence and information regarding timelines to support a finding either way. Also, the documentation provided as evidence does not include mention of the Competent Authorities response to this potential non-compliance.




















The Auditor found that the extent of the Applicant's compliance with the 139 Conditions and Sub-conditions imposed by the Updated Operational Phase Environmental Management Plan (OEMP) to be as follows:

- One Hundred and Twelve instances of Compliance were found
- Fifteen Conditions are not applicable to the current project phase.
- Twelve instances on Non-compliance were found. Of these, four related to alien vegetation clearing, three related to outstanding method statements and 5 related to insufficient erosion control, slope stabilisation and surface water management along the pipeline route. This issue is dealt with in more detail in Section 6.3 above.

The findings relating to alien vegetation clearing, erosion control and slope stabilisation are highly significant from an environmental perspective and the resultant risks posed to both the local residents and the receiving environment require urgent attention. The Auditor shares the ECO's concerns in this regard.

Appendix 1: List of Documents Reviewed

- Application For Environmental Authorisation And Exemption In Terms Of The National Environmental Management Act, 1998 (Act 107 Of 1998) And The Environmental Impact Assessment Regulations, 2010: The Proposed Themba lethu Housing Areas 8 A&B And Themba lethu Bulk Services, DEA&DP Reference:
- Updated Environmental Management Programme in terms of the National Environmental Management Act (NEMA, act 107 of 1998, as amended) for the Bulk Services Upgrade in Themba lethu (George), Cape Environmental Assessment Practitioners, 18 October 2021.
- And:

-  EMR - Themba lethu Pumpstation - April 2025 - Amended
-  EMR - Themba lethu Pumpstation - August 2025
-  EMR - Themba lethu Pumpstation - July 2025
-  EMR - Themba lethu Pumpstation - June revised 2025
-  EMR - Themba lethu Pumpstation - May 2025
-  EMR - Themba lethu Pumpstation - September 2025
-  Environmental awareness booklets
-  Environmental induction register 29 April
-  Fire Equipment Inspector FR Mazizi
-  Fire Equipment Inspector Freddy
-  Fire Equipment Inspector Musa Mlambo
-  Fire Equipment Inspector Nosipho Mathiso
-  Fire Equipment Inspector Thandile Ysterman
-  GEO379.04 Themba lethu Sewer Notice of Commencement, 16March2022
-  Method Statement Installing Swept Tees
-  Method Statement Repair of Damaged Steel Bridge
-  Method Statement Site Establishment
-  Safe Working Procedure Fire Fighting and Prevention
-  Site Organogram - Themba lethu - Pump Station No 6
-  Themba lethu_Pumpstation Layouts
-  Toolbox Talks Topics
-  Waste Disposal Receipt 2 Dec 2025

Appendix 2: Auditor Curriculum vitae

Curriculum Vitae: Wynand Frederik (Erik) Botha

Personal Details	
Date of birth	12 November 1967
ID Number	671112 5020 087
Citizenship	RSA
Language	English, Afrikaans

Contact Details	
Address	5 van der Riet Street, Da Nova, Mossel Bay, 6506
Cell	082-451 6881
e-mail	erik@errolcerff.co.za

Qualifications	
1990	B.Sc in Botany and Entomology from the University of Pretoria
1991	Basics of Environment Auditing for the Business Manager at UCT's GSB
1992	Certificate course in auditing techniques from ESKOM
1993	Advanced environmental auditing and management system design at IEA, Lincoln, UK
1994	Basic facilitator skills development, Participlan, Stellenbosch
2013	IRMSA Ongoing Training, Principles of Risk Management

Professional registration	
The Institute of Risk Management South Africa (IRMSA)	Member
The Institute of Waste Management South Africa (IWMSA)	Member
International Association for Impact Assessment South Africa	Member

Summary of experience

Erik has been involved in environmental consulting for almost 30 years, specialising in environmental auditing. He has undergone extensive training in this field, both locally and internationally. His experience base covers a wide spectrum of private and public sector clients and ranges from internal baseline audits, initial reviews, pre-acquisition audits, due diligence investigations, regulatory audits and compliance audits. He also has extensive experience as an ECO, EO and ESM on a variety of sectors.

He has also been involved in and managed a wide range of projects ranging from basic assessments, impact assessments, environmental risk assessments, management systems design and implementation, due diligence investigations, management plans, waste management plans and enterprise wide risk assessments. These projects covered a wide range of public and private sector activities and included a variety of industries.

The bulk of his project experience has been in the coastal region of the Western Cape and he is very familiar with the salient issues and drivers associated with the coastal environment.

Erik is a member of the Institute of Risk Management of South Africa, the Institute of Waste Management of South Africa and the International Association for Impact Assessment South Africa.

Service offerings include:

- Environmental risk assessments
- Environmental audits
- Environmental Control Officer, Environmental Officer and Environmental Site Manager
- Monitoring and evaluation programmes
- Environmental and cleaner production strategy development
- Waste management plans
- Cleaner production assessments
- Basic Assessments and Scoping Environmental Impact Assessments
- Project management of environmental projects

Employment Record

Date	Employer	Duties
2012 to Current	Self Employed	<ul style="list-style-type: none">• Participate in and project manage general environmental projects• Conduct Environmental Assessments (BAs and Scoping EIAs)• Conduct Environmental Risk Assessments and Audits• Develop Environmental Management Plans (EMPs)• Develop and perform monitoring and evaluation programmes• Conduct waste management assessments• Conduct cleaner production assessments
2000 to 2012	Self Employed	<ul style="list-style-type: none">• Involved in a variety of activities and initiatives in the manufacturing industry
1995 to 2000	Environmental Risk Services (Pty) Ltd (a division of Alexander Forbes)	<ul style="list-style-type: none">• Conduct and/ or manage environmental audits, risk assessments, impact assessments and management systems design on a contract basis for various clients.• Conduct training and awareness programmes for various clients.
1993 to 1995	CSIR: STELLBOSCH: Division of Earth, Marine & Atmospheric Science Technology	<ul style="list-style-type: none">• Participate in the establishment of a CSIR core team to develop environmental auditing and management system design capabilities and skills in the CSIR.• Conduct environmental audits for private enterprises.• Develop environmental management systems for private enterprises.• Develop and conduct environmental auditing and awareness courses.• Participate in and manage Environmental Impact Assessments.
1991 to 1993	Department of Environment Affairs	<ul style="list-style-type: none">• Assist in the Department's initiatives relating to environmental auditing and resource economics.

1990 to 1991	SANDF	<ul style="list-style-type: none"> SO4 Ecological Services for Northern Province Command responsible for initiating and coordinating SANDF conservation programmes in the area.
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Environmental Project Experience

Year	Project Description	Client
2026	External environmental audit of the Thembaletu pump station no. 06 and new rising main construction in George	SES Environmental Services
2024 ongoing	ECO for the C1114.31: Maintenance and control of vegetation in road reserves falling within the Garden Route District Municipality	Daveng Consulting Engineers
2025	Environmental Auditor Training for (DEA&DP): Contextualising Environmental Audits for 24G Applications	Western Cape Department of Environmental Affairs and Development Planning
2023 ongoing	Algoa Bay Aquaculture Development Zone: Secretariat to the Consultative Forum and the Authorities Management Committee.	DFFE: MLRF
2023	Specialist review of kelp investigations in support of an amendment application of the Environmental Authorisation for the Saldanha Bay Aquaculture Development Zone	BSASA
2023	Assessment of the feasibility of, and identification of environmental risks associated with, the potential relocation of a wastewater treatment works (WWTW) for Lactalis SA (Pty) Ltd, Bonnievale	Lactalis SA (Pty) Ltd
2023	Sundays River Citrus Company (Pty) Ltd, environmental risk assessment towards SIZA certification	Sundays River Citrus Company (Pty) Ltd
2023	SANLEI – Audit Baseline and Performance Management Tools Training	SANLEI Aquaculture, Lesotho
2023	Development of an EMPr for Greyton WWTW	Ecosense CC
2023	Development of an Emergency Response Plan for Greyton WWTW	Ecosense CC
2023	Technical report in support of a Water Use Licence Application: Bonugenix WWTW	Walker Water Solutions
2022	Environmental Due Diligence Review of four sites for Denel Properties	Profica (Pty) Ltd
2022	Regulation 34 External Compliance Audit of Chapman's Bay Estate	Chapman's Bay Estate Manager
2022	Regulation 34 External Compliance Audit of Longbeach Mall, Operational Phase Environmental Management Plan	AVDS Environmental Consultants

2021	Breede River Estuary Management Plan Implementation Assistance	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2021	A-Thermal: EMC Meeting Secretariat duties	Mondial
2020	Saldanha Bay Aquaculture Development Zone: Secretariat to the Consultative Forum and the Authorities Management Committee.	DFFE: MLRF
2020	De Beers EIA for bulk sampling activities, Sea Concession 6C: Stakeholder Engagement Process Consulting	SLR Consulting (South Africa) (Pty) Ltd
2019	Mile 16 Yzerfontein EMPr	inClover Environmental Consulting (Pty) Ltd
2019	ECO: Saron Bulk Water Pipeline Replacement Phase 2	Knight Piésold (Pty) Ltd (Cape Town)
2019	ECO: Farm 220 Sandown Estate, Pearly Beach - Section 24G Rectification	InClover Environmental Consulting
2019	Development of a Comprehensive Performance Assessment Tool for	DEFF: Natural
2019	Working for Wetlands: Senior Consultant	Resource Management Programmes
2019	Basic Assessment: Oakdene Aquaculture/Aquaponic Project	Lynne Matthysen Catering CC
2019	Stonewood Estate: Auditing of compliance with environmental authorisation	Bo Mo Property Developers (Pty) Ltd
2019	Part 2 Amendment: Proposed expansion of the agricultural areas on Farm: Welvaart 443, Ceres	InClover Environmental Consulting
2019	Coastal Access Audit for the West Coast and Garden Route Districts in accordance with the Provincial Coastal Access Strategy and Plan	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2018	Saldanha Bay Aquaculture Development Zone: Secretariat to the Consultative Forum and the Authorities Management Committee.	Department of Agriculture, Forestry and Fisheries
2018	Coastal access audit and pilot study for the Overberg District in accordance with the Provincial Coastal Access Strategy and Plan	Western Cape Department of Environmental Affairs and Development

		Planning (DEA&DP)
2017	Basic Assessment for the proposed Atlantic Sands, Sand winning operation in Saxonwold: Assistant EAP	Ecosense CC
2017	Basic Assessment for the proposed Atlantis Crematorium: Assistant EAP	Ecosense CC
2017	External Environmental Compliance Audit of Big Bay, Milnerton: Principal Auditor	Big Bay Master Property Owners Association
2017	Development of a Coastal Access Strategy and Plan for the Western Cape: Senior Consultant	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2016 - 2017	Development of a Limited Environmental Management Framework (EMF) in Support of the Mossel Bay Spatial Development Framework (SDF): Senior Consultant	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2016 - 2017	Scoping EIA for the proposed Garies landfill site: Assistant EAP	Ecosense
2016	Good Hope Construction: Erf 24745 Parow - Site Environmental Management Plan: Author	BPAS Architecture
2016	Tender No. 218Q/2014/15- Rehabilitation of De la Rey Street between Franci van Zijl Drive and Robert Sobukwe Road – Environmental Control Officer (ECO)	Knight Piésold (Pty) Ltd (Cape Town)
2016	Project: 115Q/2015/16 Rehabilitation of various roads in Bishop Lavis – Environmental Control Officer (ECO)	Knight Piésold (Pty) Ltd (Cape Town)
2016	Develop a Demolition Phase Integrated Waste Management Plan for the Woodstock Quarter Project	Swish Property Eighteen (Pty) Ltd
2016	Facilitation and Reporting on an Estuary Management Stakeholder Workshop	Western Cape Department of Environmental Affairs and Development Planning (DEA&DP)
2014-17	City of Cape Town, Waste Disposal Facilities: External Compliance Auditing Program - Auditor	Chand Environmental
2015	Ravensmead Informal Settlement: Initial Screening	Bergstan SA
2015	Bodensee, Cape Farm 953/12, Sardinia Drive (Sunnydale): Environmental Officer	3 Green Development
2015	Dock Road Office Building, V&A Waterfront: ECO	Ecosense CC
2015- 2018	Basic Assessment for the proposed development of the Maroela Informal Settlement: Assistant EAP	Ecosense CC
2014	Development of a Framework Environmental Management Plan	DriftXtreme
2014	Working for Wetlands Annual External Audit: Auditor	Ecosense CC

2014	Development of a Generic Environmental Management Plan	MSD Construction
2014	Development of a Risk Based Methodology for Auditing of Monitoring Systems	Lwandle Technologies
2014-15	Rehabilitation and Stabilisation of Chapman's Peak Drive : Designated Environmental Officer	Penny Farthing Engineering (SA)
2014-15	Atlantic Beach Estate: Environmental Auditor	Ecosense CC
2013	ROADMAC MR282, Development of Method Statements	ROADMAC Cape (Pty) Ltd
2013-14	Massingir Agricultural Project Mozambique, Waste Assessment and Preparation of a Waste Management Plan: Specialist Consultant	Impacto
2013-14	Development of the CPV1 Solar Touwsriver Solar Power Plant: ECO	Ecosense CC
2013	Working for Wetlands Annual External Audit: Auditor	Ecosense CC
2013	PetroSA Water Use Licence Compliance Audit: Auditor	Lwandle Technologies
2013-14	Basic Assessment for the Proposed upgrading of the Kalkfontein Informal Settlement: Assistant EAP	Ecosense CC
2013	Hotel Verde Stormwater Management Plan and LEED registration: Lead Environmental Practitioner	Moroff & Kuhne Consulting Engineers
2013	Ad Hoc Setback Application for Erf 404 Clifton: Assistant EAP	Ecosense CC
2013	Green Point Stadium Closure Audit: Assistant Auditor	Ecosense CC
2013	Big Bay Development Annual Environmental Audit: Lead Auditor	City of Cape Town
2013	Green Point Stadium Audit: Assistant Auditor	Ecosense CC
2012	Develop environmental management procedures for Sun International	Chand Environmental Consulting
2012	Assist with data collation and report review of Working for Wetlands External Performance Audit	Ecosense CC
2002	Monitoring and evaluation of the greening of the World Summit on Sustainable Development	IUCN
2001	Enterprise wide risk management and development of risk management manual for BHP-Billiton	BHP Billiton
2000	Phase one environmental investigations	Meadowfeeds Pietermaritzburg and Paarl
2000	MHI risk assessment	Plascon
1999/ 2000	ISO 14001 environmental management system	Plascon Inks Packaging and Coatings: Epping
1999	Environmental performance reviews	Meadowfeeds Pietermaritz-burg and Paarl
1999	Environmental surveys at fifty operations	Dorbyl

1999	Initial environmental reviews of four Consol operations	Consol
1999	Environmental reviews of Plascon operations throughout South Africa	Plascon
1999	Environmental risk surveys	Goldfields
1999	MHI risk assessment	Toyota
1998	Development of an integrated management plan for Robben Island Museum	Robben Island Museum
1998	Environmental due diligence for tyre manufacturing operation	First Corp Capital
1998	Environmental due diligence for quarrying operations	First Corp Capital
1998	Scoping phase EIA for infrastructure upgrades	Robben Island Museum
1998	General environmental and auditing training	Kenya Power and Lighting Company
1997- 1999	Development of an environmental management system	Kenya Power and Lighting Company
1997	Legal compliance audits of all operating entities	Ingwe
1997	Environmental reviews of seven power stations	Kenya Power and Lighting Company
1997	Initial environmental review towards the development of an ISO 14001 environmental management system	Delta Motor Corporation
1997	Environmental impact assessments of two proposed bottling plants	Century Bottling Company, Uganda
1996	Environmental legal compliance audits of all operating companies	Samancor
1996	Environmental reviews of the Chapalet and Port Elizabeth sites of Cadburys Pty Ltd	Cadburys Schweppes
1996	Environmental reviews of two Bromor Foods sites in the Western Cape	Cadburys Schweppes
1996	Environmental impact assessment: FA Satellites Development Project	Mossgas
1996	Environmental Impact Assessment: E-BT oil fields: Agulhas Bank	Soekor
1995	Environmental audit	Alusaf Hillside Smelter
1995	Environmental management system audit: Saldanha Bay	Portnet Saldanha and SFF
1995	Development of an environmental policy	MMC
1995	Development of the environmental manager's portfolio	MMC
1995	Environmental situation analysis: Manganese Metal Company: Krugersdorp and Nelspruit	MMC
1995	Property transfer audits	Siemens
1995	Environmental situation analysis	PFG
1994	Environmental auditor training course	Sasol 1, 2 & 3
1994	Development of an environmental management manual	Portnet Richards Bay
1994	Property transfer audits of nine sites in South Africa	CPC International

1994	Environmental situation analysis	Portnet Richards Bay
1993	Environmental management systems audit	Sasdiens

